

Vulcan Materials Company April 2007 Groundwater Quarterly and Annual Monitoring Report

Former Hewitt Landfill
Los Angeles, California

July 2007

Prepared for:

Vulcan Materials Company
3200 San Fernando Road
Los Angeles, CA

Prepared by:

CDM
18581 Teller Avenue, Suite 200
Irvine, California 92612

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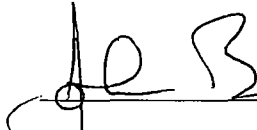
Vulcan Materials Company
3200 San Fernando Road
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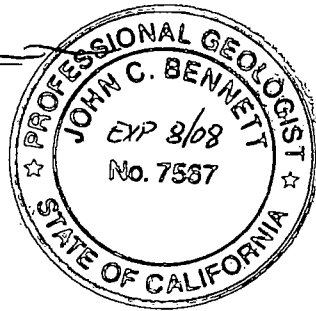
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The information contained in this report has received appropriate technical review and approval. The approach and methodology are based upon professional judgments founded upon review of available reports, the interpretation of such data and upon our professional experience and background. This acknowledgment is made in lieu of all warranties, either expressed or implied.


John C. Bennett, P.G.
Project Manager



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Section 1

Introduction

This report presents the results of groundwater monitoring and sampling activities conducted at the Former Hewitt Landfill (site; Figure 1-1) up to April 2007. Camp Dresser & McKee, Inc. (CDM) has prepared this report on behalf of Vulcan Materials Company (Vulcan). This work was conducted in response to the letter from EPA dated February 2, 2006, which conveyed a request that Vulcan conduct additional groundwater monitoring at the site. This report summarizes the scope and results of the April 2007 quarterly sampling event, which was conducted in accordance to the Sampling and Analysis Plan and Quality Assurance Plan dated July 7, 2006, as revised by the e-mail received by CDM from EPA dated February 3, 2007 which effectively reduced the analytical scope based on lack of detections of certain analytes. In addition, this report contains a description of analytical results available to date, now that CDM has completed four quarterly rounds of groundwater monitoring.

The scope of work associated with the April and previous CDM sampling events consisted of the following tasks:

- Low-flow purging and sampling of facility monitoring wells 4899 and 4909F;
- Chemical analysis of groundwater samples for volatile organic compounds (VOCs). Previous CDM events also involved analyses of metals, general minerals and certain emerging compounds;
- Submission of quarterly report to the EPA summarizing the results of the sampling event.

1.1 Property Background

The site is located in the North Hollywood portion of Los Angeles, California within an alluvial plain near the base of the San Gabriel Mountains in northern Los Angeles County (Figure 1-1).

1.2 Summary of Site Investigations

1.2.1 Previous Investigations and Regulatory Involvement

The site is located within a four-square mile area designated by the EPA in 1986 as the North Hollywood Operable Unit (NHOU) of the San Fernando Superfund Area (EPA, 1989). Starting in 1979, VOCs, such as trichloroethene (TCE) and tetrachloroethene (PCE), were discovered in the alluvial groundwater aquifer within this area. Highest concentrations generally exist east (down-gradient) of the site (CH2M Hill, 2005). EPA implemented an interim remedial measure in 1989 for the NHOU consisting of groundwater extraction wells coupled to an air stripping treatment system that is located approximately 1 mile southeast of the site (Figure 1-1).

Law Environmental (1988, 1989) previously documented site groundwater conditions, sampling analytical results, and facility-well construction information for the site. These groundwater investigations were completed as a Solid Waste Assessment Test, which was required by the Los Angeles Regional Water Quality Control Board (RWQCB) for compliance with landfill-related regulations. Three facility wells are associated with the site (Figure 1-2). Well 4899, is located west (up-gradient) of the site, and wells 4909C and 4909F are located along the eastern site boundary (down-gradient). According to present and historical groundwater data, groundwater flows generally west to east.

Prior to CDM's current monitoring program, the facility wells have been sampled on several occasions. Well 4909F was last sampled on September 22, 1995. Results of laboratory analyses performed on this sample indicated concentrations of TCE and PCE of 24 and 22 µg/L, respectively (CH2M Hill, 1995). Sampling events in 1988 and 1989 entailed sampling of all three facility wells. Existing facility-well data indicate that detectable concentrations of nitrate, chloride, dissolved solids, PCE, and TCE exist down-gradient and up-gradient (Law Environmental, 1988, 1989).

CDM conducted a down-hole video survey on wells 4899 and 4909F on March 14, 2006, the purpose of which was to evaluate the current condition of the facility wells. Well 4909C is owned by the Los Angeles Department of Water and Power (LADWP), and contained a non-removable packer that prevented us from conducting a down-hole video survey. Based on results of the down-hole video survey (which determined the presence of inert debris and sediments in the wells), CDM redeveloped wells 4899 and 4909F prior to beginning quarterly sampling in 2006. After completing these activities, CDM initiated quarterly groundwater monitoring of wells 4909F and 4899 in July 2006.

1.2.2 Nature and Extent of Contamination

The NHOU is an area known to contain groundwater contaminated with various VOCs such as TCE and PCE. Other contaminants of concern include chromium, nitrates, and chloride. Industrial activities including aircraft parts manufacturing and cleaning and metal plating were known to have taken place in the vicinity of the site.

Results of sampling events as recent as 1995 indicated that nitrate, chloride, PCE, and TCE were detected in groundwater samples collected from both up-gradient and down-gradient wells, suggesting an up-gradient source. In general, results of CDM's sampling events conducted quarterly starting in 2006 are similar to these historical results.

Section 2

Monitoring and Sampling Activities

2.1 Groundwater Monitoring and Sampling Methodology

Detailed descriptions of groundwater monitoring, sampling, and analytical methods used for this program are provided in CDM's work plan dated July 7, 2006. Field sheets for groundwater sampling are provided in Appendix A.

2.2 Quality Assurance/Quality Control Procedures

Detailed descriptions of quality assurance and quality control procedures relative to groundwater monitoring, sampling, and analytical methods are provided in CDM's work plan dated July 7, 2006.

During the April sampling event, CDM collected two quality assurance/quality control (QA/QC) field samples, including one field equipment blank and a matrix spike/matrix spike duplicate (MS/MSD) sample. Method blank, matrix spike, blank spike, and surrogate spike samples were prepared and analyzed by the laboratory in accordance to their referenced methods.

2.3 Analyses Performed

For the April monitoring event, groundwater samples were analyzed for VOCs, in accordance with USEPA Method 8260. Previous sampling events conducted by CDM involved the following additional laboratory analyses:

- Title 22 metals, in accordance with USEPA Method 6000 and 7000 series;
- Hexavalent chromium, in accordance with USEPA Method 7199;
- Nitrosodimethylamine (NDMA), in accordance with USEPA Method 1625;
- 1,2,3-Trichloropropane (1,2,3-TCP), in accordance with USEPA Method 524.2;
- Perchlorate, in accordance with USEPA Method 314.0;
- Nitrate and Nitrite (as Nitrogen), in accordance with USEPA Method 300.0;
- Sulfide, in accordance with USEPA Method 376.2; and
- Various anions and cations, in accordance with USEPA Methods 300.0 and 6010B.

Laboratory analyses were performed by Calscience Environmental Laboratories (CEL) of Garden Grove, California. CEL is a California certified laboratory.

Chain-of-custody forms and copies of the laboratory reports containing all analytical results are included in Appendix B.

2.4 Work Plan Deviations

CDM carried out the above-referenced scope of work in accordance with the USEPA-approved scope of work detailed in the Sampling and Analysis Plan and Quality Assurance Plan dated July 7, 2006. No deviations are reportable for the fourth quarter sampling event.

Section 3

Results of April 2007 Event

3.1 Results of Groundwater Elevation Monitoring

Groundwater elevation data are presented in Table 2, including groundwater elevations from this sampling quarter as well as historical data collected during past monitoring by others. The period of record includes groundwater elevations dating back to April 1988.

Based on the hydrograph of facility wells presented in Plot 1 (Appendix C), groundwater elevations have generally declined since 1988. Fluctuations in quarterly-monitored groundwater levels are likely associated with seasonal precipitation effects. In general, groundwater gradient continues to indicate flow from west to east, toward the operating pump-and-treat system located downgradient of the site.

3.2 Results of Groundwater Analyses

The results of the groundwater chemical analyses conducted quarterly by CDM are listed in Tables 3 through 6, and are summarized in Sections 3.2.1 through 3.2.4. Laboratory data sheets are included in Appendix B, and sample results were compared to the Maximum Contaminant Levels (MCLs), Public Health Goals (PHGs), National Secondary Drinking Water Standard (NSDWS), and Drinking Water Notification Level (DWNL) to assess the relative significance of observed concentrations.

3.2.1 Volatile Organic Compounds

The VOC analytical results are shown in Table 3. The following VOCs have been detected in monitored wells on one or more occasions:

- 1,1-Dichloroethane (1,1-DCA);
- 1,1-Dichloroethene (1,1-DCE);
- Cis-1,2-Dichloroethene (c-1,2-DCE);
- Chloroform;
- Dichlorodifluoromethane;
- PCE; and
- TCE.

Similar to previous events, 1,1-DCA, PCE, and TCE were detected above their respective MCLs in the groundwater samples collected from well 4909F During the

April event. VOCs and exceeding respective MCLs is listed as follows:

- 1,1-DCA was detected in groundwater samples collected from well 4909F at concentrations above the MCL of 5.0 µg/l in both the primary and duplicate samples (6.6 and 6.7 µg/l respectively).
- PCE was detected in groundwater samples collected from well 4909F at concentrations above the MCL of 5.0 µg/l in both the primary and duplicate samples (17 and 18 µg/l respectively).
- TCE was detected in groundwater samples collected from well 4909F at concentrations above the MCL of 5.0 µg/l in both the primary and duplicate samples (84 and 86 µg/l respectively).

3.2.2 Dissolved Metals

Groundwater samples were not analyzed for dissolved metals in this sampling event. The results of previous dissolved metals analyses are presented on Table 4.

3.2.3 General Minerals

Groundwater samples were not analyzed for general minerals in this sampling event. The results of previous minerals analyses are presented on Table 5. Previous sampling events included analyses of:

- Total Alkalinity, as calcium carbonate;
- Bicarbonate Alkalinity, as calcium carbonate;
- Hydroxide Alkalinity, as calcium carbonate;
- Carbonate Alkalinity, as calcium carbonate;
- Total Hardness;
- Total Dissolved Solids (TDS);
- Total Organic Carbon (TOC);
- Assorted cations, such as calcium, iron, manganese, magnesium, potassium silicon (derived from silica concentration), sodium;
- Assorted anions, such as fluoride and chloride;
- Nitrate and nitrite (as N);
- Sulfate; and
- Total sulfide.

3.2.4 Emerging Compounds

Per agreement with EPA, groundwater samples were not analyzed for emerging compounds in this sampling event. Previous samples collected from the Site were analyzed for the following emerging compounds:

- 1,2,3-Trichloropropane (1,2,3-TCP)
- Hexavalent chromium
- N-Nitrosodimethylamine
- 1,4-Dioxane
- Perchlorate

Results of previous emerging compounds analyses are shown in Table 6.

3.2.5 Field Parameters

During well sampling, turbidity, temperature, pH, and EC were measured at the beginning of purging for each monitoring well, after each purge volume was removed, and immediately before sample collection. Results of the measurements conducted immediately prior to sample collection are summarized on Table 7, and April field sheets are included in Appendix A.

3.3 Laboratory Data Evaluation

Analytical data collected during the April 2007 quarterly groundwater sampling event at the Site were reviewed and evaluated to ensure that they were usable and met the project objectives. EPA's Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review ("Functional Guidelines", EPA, 1999 and 2004) were used in conjunction with analytical method requirements to assess overall analytical data quality. Specifically, EPA's Functional Guidelines were used to assist in the overall technical review process and rationale; whereas, criteria specified in the project SAP were used to assess accuracy and precision and to determine when data qualification was warranted.

Laboratory data were reviewed for inclusion and frequency of the necessary QC supporting information. Supporting QC documentation that was evaluated for each analytical report included the following major items:

- sample holding times
- method blanks
- matrix spike/matrix spike duplicate (MS/MSD) recoveries
- relative percent difference (RPD) between MS and MSD

- laboratory control sample (LCS) recoveries
- surrogate spike recoveries

The review included data generated by Calscience Environmental Laboratories (CEL), located in Garden Grove, California. CEL is certified by California's Environmental Laboratory Accreditation Program (ELAP Certification number 1230). Findings from the data evaluation are discussed in the following sections.

3.3.1 Holding Times

For water samples, the maximum method holding times for the target analyzed vary from 24 (hexavalent chromium) hours to 6 months (metals) and are specified in Table 3-1 of the SAP. Extraction and analysis dates for each analyte in each sample were compared against these holding times. Based on the comparison, it was determined that all water samples collected during this monitoring event were analyzed within the specified technical holding times.

3.3.2 Method Blanks

Method blanks were analyzed along with all samples at a frequency of one blank per analytical batch. An analytical batch is defined as a maximum of 20 samples of similar matrix from one project that are analyzed together. The method blank is processed through all procedures, materials, reagents and labware used for sample preparation and analysis.

No concentrations of any target analyte were detected in any of the method blanks at concentrations greater than their respective laboratory reporting limits.

3.3.3 Laboratory Control Samples

Laboratory control samples (LCS), also referred to as blank spikes, are prepared by spiking a known amount of the pure analyte into a method blank, which is then carried along with the samples through the entire sample preparation/analysis sequence. LCS results provide information on the accuracy of the analytical method and on the laboratory's performance.

All LCS recoveries were within acceptable control limits (specified in SAP) for all analyses performed, which indicates acceptable accuracy for a clean water matrix.

3.3.4 Matrix Spike and Matrix Spike Duplicate Samples

Sample matrix spikes (MS) are prepared by adding a known amount of the pure analyte to the sample before extraction. Matrix spike duplicate (MSD) samples are prepared from a second aliquot of the sample analyzed as the matrix spike. MS and MSD results are used to assess background and interferences that may have an effect on the sample analyte, and the (RPD) is used to assess precision between samples of similar type. MS/MSD samples were analyzed at a frequency of 1 per 20 samples, or one per analytical batch of similar matrix, for all analyses.

Based on a review of the laboratory QC summary sheets, all MS and MSD samples were analyzed at the method-specified frequency of 1 per 20 samples. All MS/MSD recoveries and the difference between the two were within the control limits (CL) specified in the SAP with two exceptions, which indicates acceptable accuracy and precision. The exceptions are discussed in the following paragraphs.

The RPD for the benzene and carbon tetrachloride MS/MSD pairs exceeded the upper limit of the RPD CLs. However, because the MS and MSD recoveries for each constituent were within its respective recovery CLs and because neither benzene nor carbon tetrachloride was detected in any sample, no further action is warranted.

3.3.5 Surrogate Spike Samples

Laboratory performance on individual samples is evaluated by means of spiking. All samples analyzed for organics are spiked with surrogates just prior to sample purging (or sample extraction). Percent recoveries for all surrogates were provided with each analytical report, as well as the acceptable control limits (established by the laboratory).

All percent recoveries for all surrogates spiked into project samples and laboratory QC samples were within the required ranges, which demonstrate acceptable performance on an individual sample basis.

3.3.6 Overall Assessment of Groundwater Data

Based on the review of the groundwater data, there were no laboratory QC deficiencies reported during the laboratory analysis that was significant enough to warrant data rejection. All groundwater data collected during this 2007 sampling event were determined to be usable without data qualification.

3.4 Summary of Quarterly Sampling Results

Data collected during this monitoring event conducted at the site in April 2007 indicate that 1,1-DCA, PCE, and TCE are present in groundwater samples collected from well 4909F at concentrations greater than their respective MCLs. Results of this sampling event are generally similar to previous sampling events conducted since 1988, as specified below.

3.4.1 1,1-DCA

Groundwater samples collected from well 4899 have historically contained between <1 and 46 µg/l 1,1-DCA, relative to the current concentration that is below its reporting limit of 1 µg/l. Groundwater samples collected from well 4909F have historically contained between <1 and 7.1 µg/l, relative to the current 6.6 µg/l in the primary sample and 6.7 µg/l in the duplicate.

3.4.2 PCE

Groundwater samples collected from well 4899 have historically contained between <1 and 200 µg/l PCE, relative to the current concentration that is below its reporting

limit of 1 µg/l. Groundwater samples collected from well 4909F have historically contained between <1 and 23 µg/l relative to the current 17 µg/l in the primary sample and 18 µg/l in the duplicate.

3.4.3 TCE

Groundwater samples collected from well 4899 have historically contained between <1 and 45 µg/l TCE, relative to the current concentration that is below its reporting limit of 1 ug/l. Samples collected from well 4909F have historically contained between <1 and 86 µg/l relative to the current 84 µg/l in the primary sample and 86 µg/l in the duplicate.

Section 4

Discussion of Data Available to Date

On behalf of Vulcan, CDM has completed four rounds of quarterly groundwater monitoring, which was initiated in July 2006. The purpose of this section is to provide a review of all available data pertaining to wells 4909F and 4899, including data collected previously by others. The review provides technically-based recommendations regarding the need for further monitoring of these wells.

Time vs. Concentration plots for various laboratory analytes are provided in Appendix C. These plots provide the basis to evaluate temporal trends and overall stability of groundwater conditions over the period of record. Plots 2 and 3 depict VOC concentrations over time at wells 4899 and 4909F, respectively. Well 4899 detections include only PCE. No other VOCs have been detected in this well. This plot depicts relatively stable conditions in well 4899 relative to PCE, based on detections that range between <1 and 5.2 ug/L, with one exceptional concentration of 200 ug/L in 1987, which may reflect an unknown historical data quality issue.

Plot 3 depicts concentrations of 1,1-DCA, PCE, and TCE over time for well 4909F. Data are available dating back as far as April 1988. Concentrations of 1,1-DCA and TCE appear to have increased since pre-2006 monitoring events, and PCE concentrations increased between 1989 and 1995, and have since stabilized such that current concentrations are similar to those detected in 1995. During sampling events conducted by CDM since July 2006, concentrations of each of the above compounds have fluctuated slightly but similarly, possibly due to seasonal variations in groundwater conditions.

Plot 4 depicts concentrations of manganese in well 4899 between November 1984 and February 2007. Concentrations detected in initial monitoring events were below detection. Concentrations have ranged up to 0.169 mg/L. No sampling occurred between February 1989 and July 2006. Manganese concentrations appear to have increased since 1989. Regardless, concentrations have fluctuated between 0.0421 and 0.169 mg/L since July 2006, representing relatively stable conditions. Manganese concentrations in well 4909F have consistently been less than laboratory reporting limits, and are therefore not a concern and not plotted here.

Plot 5 depicts nitrate concentrations in well 4899. Concentrations were generally higher in samples collected during the 1980s than in the samples collected during the current program. No data are available between February 1989 and July 2006. Recent concentrations, however, are within the same order of magnitude as samples collected since 1988. Therefore, nitrate concentrations appear to be relatively stable in samples collected from well 4899.

Plot 6 depicts nitrate concentrations over time in samples collected from well 4909F. No nitrate data are available prior to July 2006, but available data indicate that concentrations have remained between 12 and 17 mg/L. Although these concentrations are greater than the MCL, this plot suggests relatively stable conditions.

Section 5

Conclusions and Recommendations

Groundwater monitoring data collected by CDM during the past four quarters, collectively with data collected by others prior to July 2006, suggest that contaminant concentrations generally have remained relatively stable over time. Therefore, further monitoring will not significantly enhance our understanding of groundwater conditions relative to this site. Concentration ranges for key contaminants appear to be well established. Additional data from wells 4899 and 4909F will not substantially augment EPA's ongoing NHOU groundwater monitoring program. Considering these factors, as well as the cost of future monitoring, CDM recommends that no further sampling be conducted at onsite wells.

Section 6

References

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Law Environmental, 1988, Solid Waste Assessment Test Report – Water, Hewitt Landfill, North Hollywood District, Los Angeles, California.

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Section 7

Figures



Legend

 Hewitt Landfill Boundary

Hewitt Landfill (Closed)
7361 Laurel Canyon Boulevard
Los Angeles, CA 91605



0 500 1,000 2,000
Feet

Vulcan Materials Company
Hewitt Landfill (Closed)

Site Vicinity Map

Figure 1-1



Legend

- Hewitt Landfill Boundary
- Monitoring Well

Hewitt Landfill (Closed)
7361 Laurel Canyon Boulevard
Los Angeles, CA 91605



Vulcan Materials Company
Hewitt Landfill (Closed)

Site Vicinity Map

Figure 1-2

Section 8

Tables

Table 1
 Facility Well Construction Summary
 Former Hewitt Landfill, Los Angeles, California

Casing Diameter (in)/Material	Total Depth (feet)	Screened Interval (feet-bgs)	Date Constructed
4899			
8/Steel	290	120-286	11/1/1984
4909C			
6/Steel	500	230-240	Unknown
		290-300	
		390-400	
		480-490	
4909F			
8/PVC	348	138-348	11/25/1984

Table 2
Vulcan, Former Hewitt Landfill
Past and Present Groundwater Levels

Date of Measurement	Measured by	Total Depth of Well (ft-bgs)	Depth to Water (ft-bgs)	Groundwater Elevation (ft-msl)
4899				
4/4/1988	Law Environmental	290	246.80	522
9/6/1995	CH2MHill	290	264	505
7/20/2006	CDM	291.72	271.89	497
11/16/2006	CDM	Not measured	280.18	489
2/1/2007	CDM	291.25	277.89	491
4/24/2007	CDM	291.25	283.01	486
4909C				
4/26/1988	Law Environmental	500	248.08	506
9/6/1995	CH2MHill	500	245	509
4/27/2007	CDM	Not Measured	270.81	483
4909F				
4/4/1988	Law Environmental	348	247.88	512
9/6/1995	CH2MHill	348	260	500
7/21/2006	CDM	340.38	266.18	493
10/27/2006	CDM	Not Measured	272.54	487
2/1/2007	CDM	> 300	271.67	488
4/27/2007	CDM	339	276.09	483

Notes:

ft-msl = feet mean sea level

ft-bgs = feet below ground surface

Table 3
Vulcan, Former Hewitt Landfill
Groundwater Sampling Results
Volatile Organic Compounds (ug/L)

Sample Date	Type	1,1-Dichloroethane	1,1-Dichloroethene	c-1,2-Dichloroethene	Chloroform	Dichlorodifluoromethane	Tetrachloroethene	Trichloroethene
	MCL	5.0	6.0	6.0	NE	NE	5.0	5.0
	PHG	3.0	10	100	NE	NE	0.06	0.8
4899								
20-Jul-06		1 U	1 U	1 U	1 U	1 U	4.1	1 U
20-Jul-06	K	1 U	1 U	1 U	1 U	1 U	3.8	1 U
16-Nov-06		1 U	1 U	1 U	1 U	1 U	4.6	1 U
01-Feb-07		1 U	1 U	1 U	1 U	1 U	5.2	1 U
24-Apr-07		1 U	1 U	1 U	1 U	1 U	1 U	1 U
4909								
21-Jul-06		5.8	2.7	4.1	2.0	1.4	23	74
21-Jul-06	K	4.3	1 U	2.9	1.5	1 U	15	40
27-Oct-06		7.1	1 U	3.4	2.8	6.8	21	65
27-Oct-06	K	6.1	1 U	3.5	2.8	6.3	20	63
01-Feb-07		2.6	1.1	2	1.6	2	14	50
24-Apr-07		6.6	1 U	3.8	3.4	5.8	17	84
24-Apr-07	K	6.7	1 U	4	3.4	6.2	18	86
EB								
20-Jul-06		1 U	1 U	1 U	1 U	1 U	1 U	1 U
27-Oct-06		1 U	1 U	1 U	1 U	1 U	1 U	1 U
01-Feb-07		1 U	1 U	1 U	1 U	1 U	1 U	1 U
24-Apr-07		1 U	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

All analytical results in micrograms per liter ug/l

Only analytes detected in one or more samples are listed

All samples analyzed using EPA Method 8260B

MCL = Maximum Contaminant Level, as required by California Department of Health Services

PHG = Public Health Goal, as required by California Office of Environmental Health Hazard Assessment

NE = None Established, as of the date of this report

U = Not detected at a concentration greater than the laboratory reporting limit shown

EB = Equipment blank

K = Duplicate sample

Table 4
Vulcan, Former Hewitt Landfill
Groundwater Sampling Results
Dissolved Metals (mg/L)

Sample Date	Sample Type	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
	MCL	0.006	0.05	0.004	0.005	0.005	1.3	0.015	0.002	0.10	0.05	0.10	0.002	5.0
	PHG	0.02	0.000004	0.001	0.00007	NE	0.17	0.002	0.0012	0.012	NE	NE	0.0001	NE
	NSDWS	NE	0.01	NE	NE	NE	1.0	NE	NE	NE	NE	0.10	NE	5.0
4899														
20-Jul-06		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00523	0.001 U	0.001 U	0.001 U	0.0480
20-Jul-06	K	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00453	0.001 U	0.001 U	0.001 U	0.0340
16-Nov-06		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00102	0.001 U	0.001 U	0.001 U	0.0222
01-Feb-07		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00203	0.001 U	0.001 U	0.001 U	0.0157
24-Apr-07		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4909F														
21-Jul-06		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00368	0.001 U	0.001 U	0.001 U	0.0336
21-Jul-06	K	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00334	0.001 U	0.001 U	0.001 U	0.0200
27-Oct-06		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0295
27-Oct-06	K	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0315
01-Feb-07		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.00193	0.001 U	0.001 U	0.001 U	0.0117
24-Apr-07		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB														
20-Jul-06		0.001 U	0.001 U	0.001 U	0.001 U	0.00166	0.001 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0121
27-Oct-06		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0201

Notes:

All parameters analyzed using EPA Method 6020 except mercury, which was analyzed using EPA method 7470A

MCL = Maximum Contaminant Level, as required by California Department of Health Services

PHG = Public Health Goal, as required by California Office of Environmental Health Hazard Assessment

NSDWS = National Secondary Drinking Water Standards

NE = None Established, as of the date of this report

All analytical results in milligrams per liter (mg/l)

NA = Not analyzed

U = Not detected at a concentration greater than the laboratory reporting limit shown

EB = Equipment blank

K = Duplicate sample

Table 5
Vulcan, Former Hewitt Landfill
Groundwater Sampling Results
General Minerals (mg/L)

Sample Date	Sample Type	Alkalinity, Total (as CaCO ₃)	Bicarbonate Alkalinity (as CaCO ₃)	Hydroxide Alkalinity (as CaCO ₃)	Carbonate Alkalinity (as CaCO ₃)	Hardness, Total	Solids, Total Dissolved	Carbon, Total Organic	Calcium	Iron	Magnesium	Manganese	Potassium	Silicon (from Silica)	Sodium	Chloride	Fluoride	Nitrate (as N)	Nitrite (as N)	Sulfate	Sulfide, Total
	MCL	NE	NE	NE	NE	NE	1500	NE	NE	0.30	NE	0.05	NE	NE	NE	600	2.0	10	1.0	600	NE
	PHG	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1.0	NE	1.0	NE	NE
	NSDWS	NE	NE	NE	NE	NE	500	NE	NE	0.30	NE	0.05	NE	NE	NE	250	2.0	NE	NE	250	NE
EPA Method		SM2320B					130.0	160.1	415.1	6010B							300				376.2
4899																					
20-Jul-06		290	290	1 U	1 U	480	597	1.6	140	0.1 U	25.0	0.167	5.45	9.41	45.5	66	0.26	19	0.1 U	42	0.05 U
20-Jul-06	K	290	290	1 U	1 U	430	623	1.7	139	0.1 U	25.7	0.170	5.31	9.62	44.6	64	0.25	19	0.1 U	42	0.05 U
16-Nov-06		236	236	1 U	1 U	300	516	5.5	91.8	0.1 U	23.3	0.0421	4.9	7.13	41.5	61	0.1 UJ	16	0.46	33	0.05 U
01-Feb-07		208	208	1 U	1 U	340	476	0.5 U	95.2	0.1 U	25.8	0.07	5.96	7.21	48.5	69	0.11	18*	0.069*	52	0.05 U
24-Apr-07		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4909F																					
21-Jul-06		300	300	1 U	1 U	400	543	1.6	124	0.1 U	24.8	0.005 U	5.68	12.6	42	35	0.26	12	0.1 U	59	0.05 U
21-Jul-06	K	320	320	1 U	1 U	400	535	1.5	119	0.1 U	23.4	0.005 U	6.00	12.2	40.2	33	0.26	12	0.1 U	57	0.05 U
27-Oct-06		362	362	1 U	1 U	390	618	1.9	136	0.1 U	27.1	0.005 U	7.98	12.1	45.6	37	0.7	17	0.1 U	58	0.05 U
27-Oct-06	K	362	362	1 U	1 U	420	618	1.7	139	0.1 U	27.2	0.005 U	8.53	12.1	45.9	37	0.69	17	0.1 U	57	0.05 U
01-Feb-07		296	296	1 U	1 U	400	534	0.5 U	116	0.1 U	23.3	0.005 U	5.31	13.4	42.9	33	0.27	14*	0.01 U*	80	0.05 U
24-Apr-07		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB																					
20-Jul-06		1.7	1.7	1 U	1 U	2 U	1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.005 U	0.5 U	0.05 U	0.599	1 U	0.1 U	0.1 U	0.1 U	1.4	0.05 U
27-Oct-06		2.0	2.0	1 U	1 U	600	1.5	0.5 U	0.0379 J	0.1 U	0.0146 J	0.005 U	2.35	0.261	0.0234 J	1 U	0.1 U	0.1 U	0.1 U	1 U	0.05 U

Notes:
CaCO₃ = Calcium carbonate
MCL = Maximum Contaminant Level, as required by California Department of Health Services
PHG = Public Health Goal, as required by California Office of Environmental Health Hazard Assessment
NSDWS = National Secondary Drinking Water Standards
NE = None Established, as of the date of this report
All analytical results in milligrams per liter (mg/l)
U = Not detected at a concentration greater than the laboratory reporting limit shown
NA = Not analyzed
EB = Equipment blank
K = Duplicate sample
* = Samples were analyzed after holding time had been exceeded; however, due to their similarity to previous results, CDM considers these results valid.

Table 6
Vulcan, Former Hewitt Landfill
Groundwater Sampling Results
Emerging Compounds

Sample Date	Sample Type	1,2,3-Trichloropropane (1,2,3-TCP)	Chromium, Hexavalent	N-Nitrosodimethylamine (NDMA)	1,4-Dioxane	Perchlorate
	MCL	0.005	NE	NE	NE	NE
	PHG	NE	NE	NE	NE	6.0
	DWNL	NE	NE	10	3.0	6.0
EPA Method		524.2M (µg/l)	7199 (µg/l)	1625CM (ng/l)	8270CM (µg/l)	314.0 (µg/l)
4899						
20-Jul-06		0.005 U	0.13 J	2 U	2 U	2 U
20-Jul-06	K	0.005 U	0.12 J	2 U	2 U	2 U
16-Nov-06		0.005 U	1 U	2 U	2 U	2 U
01-Feb-07		0.005 U	0.22 U J*	2 U	2 U	2 U
24-Apr-07		NA	NA	NA	NA	NA
4909F						
21-Jul-06		0.005 U	1.3	2 U	2 U	2 U
21-Jul-06	K	0.005 U	1.4	2 U	2 U	2 U
27-Oct-06		0.005 U	1.2	2 U	2 U	2 U
27-Oct-06	K	0.005 U	1.2	2 U	2 U	2 U
01-Feb-07		0.005 U	1.5	2 U	2 U	2 U
24-Apr-07		NA	NA	NA	NA	NA
EB						
20-Jul-06		0.005 U	0.11 J	2 U	2 U	2 U
27-Oct-06		0.005 U	0.15 J	2 U	2 U	2 U

Notes:

MCL = Maximum Contaminant Level, as required by California Department of Health Services

PHG = Public Health Goal, as required by California Office of Environmental Health Hazard Assessment

DWNL = Drinking Water Notification Level, as required by California Department of Health Services

NE = None Established, as of the date of this report

ng/l = nanograms per liter

µg/l = micrograms per liter

NA = Not analyzed

U = Not detected at a concentration greater than the laboratory reporting limit shown

EB = Equipment blank

K = Duplicate sample

J = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is an estimate.

* = Analyte was also detected in the method blank; this detection is not greater than five times the concentration found in the method blank. As a result, this concentration is considered a non-detection.

Table 7
Vulcan, Former Hewitt Landfill
Groundwater Sampling Results
Field Parameters

Sampling Date	pH	Specific Conductance	Turbidity	Dissolved Oxygen	Redox	Temperature
	S.U.	umohs/cm	NTU	mg/L	mV	degrees C
4899						
20-Jul-06	7.36	1	70	2.31	75	22.2
16-Nov-06	7.95	0.616	0	0.47	63	20.1
01-Feb-07	6.76	0.66	25	0.05	91	18.2
24-Apr-07	5.67	0.566	125	12.09	66	21.2
4909F						
20-Jul-06	6.92	0.961	11	9.18	280	21.7
16-Nov-06	6.4	0.95	10	6.54	4.32	19.5
01-Feb-07	6.71	0.694	1	6.15	115	18
24-Apr-07	5.54	1.01	39	10.48	144	22.8

Notes:

Results presented represent conditions measured immediately prior to sample collection

mg/L = milligrams per liter

SU = Standard pH Units

umohs/cm = micromohs per centimeter

mV = millivolts

Appendix A

Field Sheets

Well No.: 4899		Site: Former Hewitt Landfill		Date: 24 April 97																																													
Client: Vulcan		Project Number: 22517-51079																																															
Well Casing Diameter (inches): 4"		Well Casing Material: (PVC) SS Other:																																															
Well Headspace:		PID (ppm): N/A 0.0/0.0		FID (ppm): N/A																																													
Samplers: N. Begay		with CDM Martin Vasquez (Allied)																																															
Total Depth of Well (feet): 291.25		2" - 0.16																																															
Depth to Water (feet): 283.01		(X) 4" - 0.65 Gal/ft. = _____ (X) 3 = _____																																															
Water Column Height (feet): _____		6" - 1.47																																															
Well Reference Point: TOC		_____ " - _____ Low Flow Purge																																															
PURGE METHOD: Submersible pump <input type="checkbox"/> Bladder pump <input checked="" type="checkbox"/> Disposable bailer <input type="checkbox"/>																																																	
Pump Make/Model:		Depth of pump intake (feet):																																															
Purge equipment decontaminated? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		Container type: Baker tank of 55 gallon drum																																															
Purge/decon water containerized? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		Volume: 3.5 gal																																															
Initial DO 7.20 mg/L @ 1507		Start Time: 1500		Flow Rate: SAL 1																																													
Time	Gallons	Temp. (°C/°F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	BTW (# TOC)	Comments																																								
1550	0.5	22.7	5.70	0.556	1086	8.63	-71	0.02	Really airy																																								
1617	1.0	22.6	5.68	0.558	919	9.20	84	0.02	very turbid																																								
16	1.5	23.0	5.72	0.563	527	12.50	-6	0.02	changed to cum. from bag. too airy.																																								
1642	2.0	22.6	5.72	0.563	520	12.26	24	0.02																																									
1702	2.5	22.0	5.70	0.564	318	12.14	50	0.02																																									
1723	3.0	21.5	5.68	0.565	1618	12.42	60	0.02																																									
1745	3.5	21.2	5.67	0.566	125	12.09	66	0.02																																									
<table border="1"> <thead> <tr> <th>Sample Analyses:</th> <th>Method</th> <th>Container Type/Volume</th> <th>Preservative</th> </tr> </thead> <tbody> <tr> <td rowspan="6">→</td> <td>EPA 8260 VOCs</td> <td>3 VOAC</td> <td>HCl</td> </tr> <tr> <td>EPA 8270 SIM-SVOCs</td> <td>1</td> <td></td> </tr> <tr> <td>EPA 504.1 T, 2, 3-TOF</td> <td>=</td> <td></td> </tr> <tr> <td>EPA 8010/7471 Title 22 Metals</td> <td></td> <td></td> </tr> <tr> <td>EPA 7198 Hexavalent Chromium</td> <td></td> <td></td> </tr> <tr> <td>EPA 1625 NDMA</td> <td></td> <td></td> </tr> <tr> <td rowspan="3"></td> <td>EPA 314.0 Perchlorate</td> <td></td> <td></td> </tr> <tr> <td>EPA 353.3/354.1 Nitrate/Nitrite</td> <td></td> <td></td> </tr> <tr> <td>EPA 300.0/6010B Anions and Cations</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Sample Collection Method: ↓</td> <td>EPA 376.2 Sulfide</td> <td></td> <td></td> </tr> <tr> <td>EPA 6010 Dissolved Fe and Mn</td> <td></td> <td></td> </tr> </tbody> </table>										Sample Analyses:	Method	Container Type/Volume	Preservative	→	EPA 8260 VOCs	3 VOAC	HCl	EPA 8270 SIM-SVOCs	1		EPA 504.1 T, 2, 3-TOF	=		EPA 8010/7471 Title 22 Metals			EPA 7198 Hexavalent Chromium			EPA 1625 NDMA				EPA 314.0 Perchlorate			EPA 353.3/354.1 Nitrate/Nitrite			EPA 300.0/6010B Anions and Cations			Sample Collection Method: ↓	EPA 376.2 Sulfide			EPA 6010 Dissolved Fe and Mn		
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Sample Collection Method: ↓	EPA 376.2 Sulfide																																																
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Pump: <input checked="" type="checkbox"/> Flow Rate: <100ml/min		Sample ID: 4899-290-020107-0		Sample Time: 1600																																													
Bailer: <input type="checkbox"/> Type: disposable		Duplicate ID: 042407		Sample Time:																																													
Other: <input type="checkbox"/> Desc.:		Equip. blank ID: 4899-290-020107-2		Sample Time: 1445																																													
CDM MONITORING WELL PURGE AND SAMPLING FORM																																																	

* Turbidity taken w/ Lamotte 2020 Turbimeter

MN 40
20 PSI = +80

MS/MSD?
collected 6 VOACs.

Tues.

Well No.: 4909F		Site: Former Hewitt Landfill		Date: 24 April 07																																																																																																					
Client: Vulcan			Project Number: 22517-51079																																																																																																						
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Total Depth of Well (feet):		339 2" - 0.16																																																																																																							
Depth to Water (feet):		276.09 (X) 4" - 0.65 Gal/ft. = (X) 3 =																																																																																																							
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Well Reference Point: TOC		Low Flow Purge																																																																																																							
PURGE METHOD: Submersible pump <input type="checkbox"/> Bladder pump <input checked="" type="checkbox"/> Disposable bailer <input type="checkbox"/>																																																																																																									
Pump Make/Model: AFD			Depth of pump intake (feet): 285'																																																																																																						
Purge equipment decontaminated? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			Container type: Baker tank or 55 gallon drum																																																																																																						
Purge/decon water containerized? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			Volume:																																																																																																						
Initial DO:		Start Time: 10:11		Flow Rate: CAL. %																																																																																																					
<table border="1"> <thead> <tr> <th>Time</th> <th>Gallons</th> <th>Temp</th> <th>pH</th> <th>Conductivity (µmhos/cm)</th> <th>Turbidity (NTUs)</th> <th>DO (mg/L)</th> <th>ORP (mV)</th> <th>DTW (#TOC)</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>11:46</td> <td>500 ml</td> <td>25.2</td> <td>5.76</td> <td></td> <td></td> <td></td> <td>109</td> <td></td> <td>WUPP Meter</td> </tr> <tr> <td>11:59</td> <td>0.25</td> <td>22.7</td> <td>5.59</td> <td>1.02</td> <td>77</td> <td>9.79</td> <td>124</td> <td>0.04</td> <td></td> </tr> <tr> <td>12:05</td> <td>0.5</td> <td>22.3</td> <td>5.55</td> <td>1.01</td> <td>101</td> <td>10.03</td> <td>126</td> <td>0.04</td> <td></td> </tr> <tr> <td>12:16</td> <td>1.0</td> <td>22.1</td> <td>5.49</td> <td>1.01</td> <td>155</td> <td>10.30</td> <td>132</td> <td>0.04</td> <td></td> </tr> <tr> <td>12:26</td> <td>1.5</td> <td>22.1</td> <td>5.44</td> <td>1.01</td> <td>131</td> <td>10.53</td> <td>135</td> <td>0.04</td> <td></td> </tr> <tr> <td>12:37</td> <td>2.0</td> <td>22.3</td> <td>5.47</td> <td>1.01</td> <td>116</td> <td>10.45</td> <td>139</td> <td>0.04</td> <td>27.3 NTU</td> </tr> <tr> <td>12:50</td> <td>2.5</td> <td>22.6</td> <td>5.52</td> <td>1.01</td> <td>112</td> <td>10.52</td> <td>141</td> <td>0.04</td> <td>18.7 "</td> </tr> <tr> <td>13:00</td> <td>3.0</td> <td>22.8</td> <td>5.54</td> <td>1.01</td> <td>67</td> <td>10.50</td> <td>141</td> <td>0.04</td> <td>15.7 NTU</td> </tr> <tr> <td>13:11</td> <td>3.5</td> <td>22.8</td> <td>5.54</td> <td>1.01</td> <td>39</td> <td>10.48</td> <td>144</td> <td>0.04</td> <td>14.9 "</td> </tr> </tbody> </table>						Time	Gallons	Temp	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	DTW (#TOC)	Comments	11:46	500 ml	25.2	5.76				109		WUPP Meter	11:59	0.25	22.7	5.59	1.02	77	9.79	124	0.04		12:05	0.5	22.3	5.55	1.01	101	10.03	126	0.04		12:16	1.0	22.1	5.49	1.01	155	10.30	132	0.04		12:26	1.5	22.1	5.44	1.01	131	10.53	135	0.04		12:37	2.0	22.3	5.47	1.01	116	10.45	139	0.04	27.3 NTU	12:50	2.5	22.6	5.52	1.01	112	10.52	141	0.04	18.7 "	13:00	3.0	22.8	5.54	1.01	67	10.50	141	0.04	15.7 NTU	13:11	3.5	22.8	5.54	1.01	39	10.48	144	0.04	14.9 "
Time	Gallons	Temp	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	DTW (#TOC)	Comments																																																																																																
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		EPA 370.2 Sulfide																																																																																																							
		EPA 6010 Dissolved Fe and Mn																																																																																																							
Pump: <input checked="" type="checkbox"/> Flow Rate: <100ml/min		Sample ID: 4909F-285-042407-0		Sample Time: 1315																																																																																																					
Bailer: <input type="checkbox"/> Type: disposable		Duplicate ID: 4909F-285-042407-1		Sample Time: 1325																																																																																																					
Other: <input type="checkbox"/> Desc.:		Equip. blank ID:		Sample Time:																																																																																																					

CDM

MONITORING WELL PURGE AND SAMPLING FORM

Mod

MN

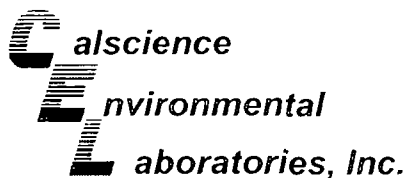
45

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PSI=180

Appendix B

Laboratory Reports



May 02, 2007

John Bennett
Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Subject: **CalScience Work Order No.: 07-04-1774**
Client Reference: Hewitt-Vulcan / 22517

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/25/2007 and analyzed in accordance with the attached chain-of-custody.

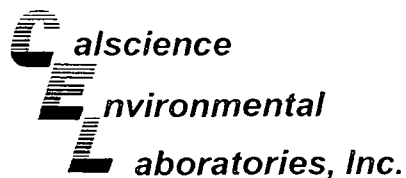
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard CalScience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Nowak", written over a horizontal line.

CalScience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager



Analytical Report



Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

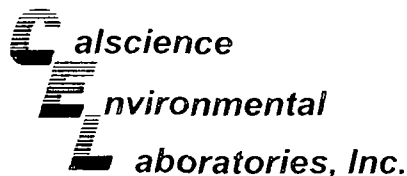
Project: Hewitt-Vulcan / 22517

Page 1 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
4909F-285-042407-0	07-04-1774-1	04/24/07	Aqueous	GC/MS R	05/01/07	05/01/07	070501L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,1-Dichloropropene	ND	1.0	1	
Benzene	ND	0.50	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromobenzene	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		2-Hexanone	ND	10	1	
Bromofrom	ND	1.0	1		Isopropylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		p-Isopropyltoluene	ND	1.0	1	
2-Butanone	ND	10	1		Methylene Chloride	ND	10	1	
n-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
sec-Butylbenzene	ND	1.0	1		Naphthalene	ND	10	1	
tert-Butylbenzene	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1		Styrene	ND	1.0	1	
Carbon Tetrachloride	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chlorobenzene	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloroethane	ND	1.0	1		Tetrachloroethene	17	1.0	1	
Chloroform	3.4	1.0	1		Toluene	ND	1.0	1	
Chloromethane	ND	10	1		1,2,3-Trichlorobenzene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,1,1-Trichloroethane	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Trichloroethene	84	1.0	1	
Dibromomethane	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
1,3-Dichlorobenzene	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
Dichlorodifluoromethane	5.8	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethane	6.6	1.0	1		Vinyl Chloride	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
c-1,2-Dichloroethene	3.8	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
1,3-Dichloropropane	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
2,2-Dichloropropane	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	105	74-140			1,2-Dichloroethane-d4	110	74-146		
Toluene-d8	102	88-112			1,4-Bromofluorobenzene	96	74-110		

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



Analytical Report



Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

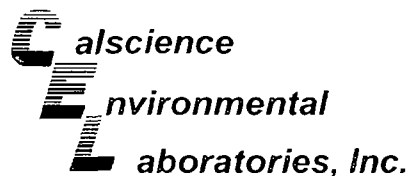
Project: Hewitt-Vulcan / 22517

Page 2 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
4909F-285-042407-1	07-04-1774-2	04/24/07	Aqueous	GC/MS.R	05/01/07	05/01/07	070501L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,1-Dichloropropene	ND	1.0	1	
Benzene	ND	0.50	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromobenzene	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		2-Hexanone	ND	10	1	
Bromoform	ND	1.0	1		Isopropylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		p-Isopropyltoluene	ND	1.0	1	
2-Butanone	ND	10	1		Methylene Chloride	ND	10	1	
n-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
sec-Butylbenzene	ND	1.0	1		Naphthalene	ND	10	1	
tert-Butylbenzene	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1		Styrene	ND	1.0	1	
Carbon Tetrachloride	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chlorobenzene	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloroethane	ND	1.0	1		Tetrachloroethene	18	1.0	1	
Chloroform	3.4	1.0	1		Toluene	ND	1.0	1	
Chloromethane	ND	10	1		1,2,3-Trichlorobenzene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,1,1-Trichloroethane	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Trichloroethene	86	1.0	1	
Dibromomethane	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
1,3-Dichlorobenzene	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
Dichlorodifluoromethane	6.2	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethane	6.7	1.0	1		Vinyl Chloride	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
c-1,2-Dichloroethene	4.0	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
1,3-Dichloropropane	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
2,2-Dichloropropane	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	107	74-140			1,2-Dichloroethane-d4	113	74-146		
Toluene-d8	102	88-112			1,4-Bromofluorobenzene	97	74-110		

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



Analytical Report



Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

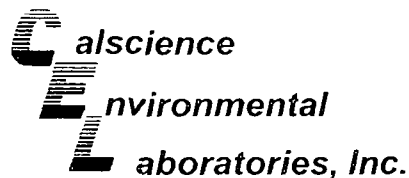
Project: Hewitt-Vulcan / 22517

Page 3 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
4899-290-042407-2	07-04-1774-4	04/24/07	Aqueous	GC/MS,R	05/01/07	05/01/07	070501L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,1-Dichloropropene	ND	1.0	1	
Benzene	ND	0.50	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromobenzene	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		2-Hexanone	ND	10	1	
Bromoform	ND	1.0	1		Isopropylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		p-Isopropyltoluene	ND	1.0	1	
2-Butanone	ND	10	1		Methylene Chloride	ND	10	1	
n-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
sec-Butylbenzene	ND	1.0	1		Naphthalene	ND	10	1	
tert-Butylbenzene	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1		Styrene	ND	1.0	1	
Carbon Tetrachloride	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chlorobenzene	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloroethane	ND	1.0	1		Tetrachloroethene	ND	1.0	1	
Chloroform	ND	1.0	1		Toluene	ND	1.0	1	
Chloromethane	ND	10	1		1,2,3-Trichlorobenzene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,1,1-Trichloroethane	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Trichloroethene	ND	1.0	1	
Dibromomethane	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
1,3-Dichlorobenzene	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethane	ND	1.0	1		Vinyl Chloride	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
1,3-Dichloropropane	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
2,2-Dichloropropane	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Dibromofluoromethane	105	74-140			1,2-Dichloroethane-d4	109	74-146		
Toluene-d8	101	88-112			1,4-Bromofluorobenzene	98	74-110		

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



Analytical Report

Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

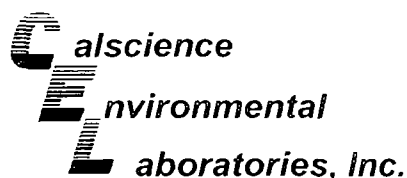
Project: Hewitt-Vulcan / 22517

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
4899-290-042407-0	07-04-1774-5	04/24/07	Aqueous	GC/MS R	05/01/07	05/02/07	070501L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,1-Dichloropropene	ND	1.0	1	
Benzene	ND	0.50	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromobenzene	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		2-Hexanone	ND	10	1	
Bromoform	ND	1.0	1		Isopropylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		p-Isopropyltoluene	ND	1.0	1	
2-Butanone	ND	10	1		Methylene Chloride	ND	10	1	
n-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
sec-Butylbenzene	ND	1.0	1		Naphthalene	ND	10	1	
tert-Butylbenzene	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1		Styrene	ND	1.0	1	
Carbon Tetrachloride	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chlorobenzene	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloroethane	ND	1.0	1		Tetrachloroethene	ND	1.0	1	
Chloroform	ND	1.0	1		Toluene	ND	1.0	1	
Chloromethane	ND	10	1		1,2,3-Trichlorobenzene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,1,1-Trichloroethane	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Trichloroethene	ND	1.0	1	
Dibromomethane	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
1,3-Dichlorobenzene	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethane	ND	1.0	1		Vinyl Chloride	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
1,3-Dichloropropane	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
2,2-Dichloropropane	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	108	74-140			1,2-Dichloroethane-d4	113	74-146		
Toluene-d8	102	88-112			1,4-Bromofluorobenzene	98	74-110		

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



Analytical Report

Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

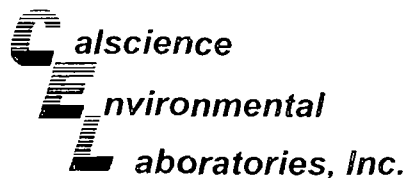
Project: Hewitt-Vulcan / 22517

Page 5 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-21,219	N/A	Aqueous	GC/MS'R	05/01/07	05/01/07	070501L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,1-Dichloropropene	ND	1.0	1	
Benzene	ND	0.50	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromobenzene	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		2-Hexanone	ND	10	1	
Bromoform	ND	1.0	1		Isopropylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		p-Isopropyltoluene	ND	1.0	1	
2-Butanone	ND	10	1		Methylene Chloride	ND	10	1	
n-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
sec-Butylbenzene	ND	1.0	1		Naphthalene	ND	10	1	
tert-Butylbenzene	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1		Styrene	ND	1.0	1	
Carbon Tetrachloride	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chlorobenzene	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloroethane	ND	1.0	1		Tetrachloroethene	ND	1.0	1	
Chloroform	ND	1.0	1		Toluene	ND	1.0	1	
Chloromethane	ND	10	1		1,2,3-Trichlorobenzene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,1,1-Trichloroethane	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Trichloroethene	ND	1.0	1	
Dibromomethane	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
1,3-Dichlorobenzene	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethane	ND	1.0	1		Vinyl Chloride	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
1,3-Dichloropropane	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
2,2-Dichloropropane	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	104	74-140			1,2-Dichloroethane-d4	108	74-146		
Toluene-d8	100	88-112			1,4-Bromofluorobenzene	97	74-110		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

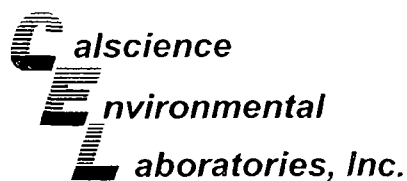
Project: Hewitt-Vulcan / 22517

Page 6 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-21,231	N/A	Aqueous	GC/MS R	05/01/07	05/02/07	070501L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,1-Dichloropropene	ND	1.0	1	
Benzene	ND	0.50	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromobenzene	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		2-Hexanone	ND	10	1	
Bromoform	ND	1.0	1		Isopropylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		p-Isopropyltoluene	ND	1.0	1	
2-Butanone	ND	10	1		Methylene Chloride	ND	10	1	
n-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
sec-Butylbenzene	ND	1.0	1		Naphthalene	ND	10	1	
tert-Butylbenzene	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1		Styrene	ND	1.0	1	
Carbon Tetrachloride	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chlorobenzene	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloroethane	ND	1.0	1		Tetrachloroethene	ND	1.0	1	
Chloroform	ND	1.0	1		Toluene	ND	1.0	1	
Chloromethane	ND	10	1		1,2,3-Trichlorobenzene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,1,1-Trichloroethane	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Trichloroethene	ND	1.0	1	
Dibromomethane	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
1,3-Dichlorobenzene	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethane	ND	1.0	1		Vinyl Chloride	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
1,3-Dichloropropane	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
2,2-Dichloropropane	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	103	74-140			1,2-Dichloroethane-d4	105	74-146		
Toluene-d8	100	88-112			1,4-Bromofluorobenzene	94	74-110		

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Camp Dresser & McKee, Inc.
18581 Teller Avenue
Suite 200
Irvine, CA 92612-1627

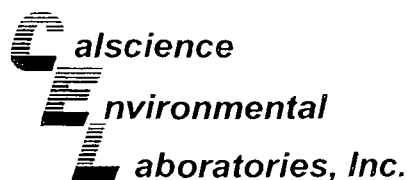
Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B

Project Hewitt-Vulcan / 22517

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-04-1980-6	Aqueous	GC/MS R	05/01/07	05/01/07	070501S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	108	89-119	8	0-9	
Chloroform	108	113	85-127	4	0-10	
1,1-Dichloroethane	103	109	87-123	5	0-10	
1,2-Dichloroethane	104	108	87-129	4	0-11	
1,1-Dichloroethene	100	108	77-125	8	0-15	
Tetrachloroethene	75	81	84-120	9	0-9	3
Toluene	102	108	88-124	5	0-10	
Trichloroethene	98	107	89-119	9	0-10	
Methyl-t-Butyl Ether (MTBE)	99	105	73-127	6	0-17	
Ethanol	100	106	51-153	5	0-40	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



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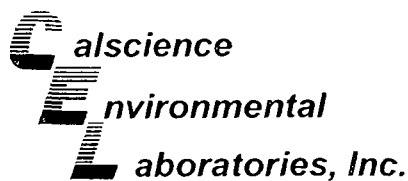
Date Received: 04/25/07
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B

Project Hewitt-Vulcan / 22517

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-04-2059-1	Aqueous	GC/MS R	05/01/07	05/02/07	070501S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	103	107	88-118	3	0-7	
Carbon Tetrachloride	82	104	67-145	24	0-11	4
Chlorobenzene	98	102	88-118	3	0-7	
1,2-Dichlorobenzene	99	99	86-116	0	0-8	
1,1-Dichloroethene	101	101	70-130	0	0-25	
Toluene	103	104	87-123	2	0-8	
Trichloroethene	101	102	79-127	1	0-10	
Vinyl Chloride	95	98	69-129	3	0-13	
Methyl-t-Butyl Ether (MTBE)	104	106	71-131	2	0-13	
Tert-Butyl Alcohol (TBA)	106	109	36-168	3	0-45	
Diisopropyl Ether (DIPE)	104	110	81-123	6	0-9	
Ethyl-t-Butyl Ether (ETBE)	101	105	72-126	4	0-12	
Tert-Amyl-Methyl Ether (TAME)	95	102	72-126	7	0-12	
Ethanol	116	121	53-149	5	0-31	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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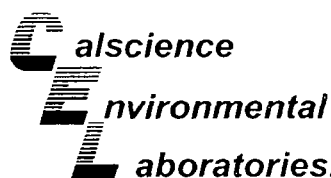
Date Received: N/A
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B

Project: Hewitt-Vulcan / 22517

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-21,219	Aqueous	GC/MS R	05/01/07	05/01/07	070501L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	103	84-120	4	0-8	
Carbon Tetrachloride	87	92	63-147	5	0-10	
Chlorobenzene	96	100	89-119	4	0-7	
1,2-Dichlorobenzene	95	99	89-119	4	0-9	
1,1-Dichloroethene	103	104	77-125	1	0-16	
Toluene	101	103	83-125	2	0-9	
Trichloroethene	101	105	89-119	4	0-8	
Vinyl Chloride	99	99	63-135	0	0-13	
Methyl-t-Butyl Ether (MTBE)	99	103	82-118	3	0-13	
Tert-Butyl Alcohol (TBA)	94	95	46-154	1	0-32	
Diisopropyl Ether (DIPE)	100	102	81-123	2	0-11	
Ethyl-t-Butyl Ether (ETBE)	101	103	74-122	3	0-12	
Tert-Amyl-Methyl Ether (TAME)	93	96	76-124	3	0-10	
Ethanol	104	102	60-138	2	0-32	

RPD - Relative Percent Difference . CL - Control Limit



Quality Control - LCS/LCS Duplicate

Camp Dresser & McKee, Inc.
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Irvine, CA 92612-1627

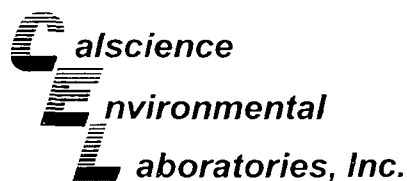
Date Received: N/A
Work Order No: 07-04-1774
Preparation: EPA 5030B
Method: EPA 8260B

Project: Hewitt-Vulcan / 22517

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-21,231	Aqueous	GC/MS R	05/01/07	05/01/07	070501L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	108	104	84-120	4	0-8	
Carbon Tetrachloride	90	91	63-147	1	0-10	
Chlorobenzene	103	98	89-119	5	0-7	
1,2-Dichlorobenzene	103	100	89-119	3	0-9	
1,1-Dichloroethene	109	106	77-125	3	0-16	
Toluene	107	104	83-125	4	0-9	
Trichloroethene	108	106	89-119	2	0-8	
Vinyl Chloride	100	98	63-135	2	0-13	
Methyl-t-Butyl Ether (MTBE)	106	103	82-118	2	0-13	
Tert-Butyl Alcohol (TBA)	103	99	46-154	3	0-32	
Diisopropyl Ether (DIPE)	106	103	81-123	2	0-11	
Ethyl-t-Butyl Ether (ETBE)	101	103	74-122	3	0-12	
Tert-Amyl-Methyl Ether (TAME)	99	97	76-124	2	0-10	
Ethanol	109	107	60-138	2	0-32	

RPD - Relative Percent Difference . CL - Control Limit



Glossary of Terms and Qualifiers



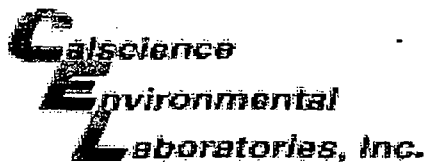
Work Order Number: 07-04-1774

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

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Page 1 of 1Page 13 of 14
Q&Q Graphic 714-898-8702

05/10/06 Revision



WORK ORDER #: 07 - 04 - 1774

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: CDM

DATE: 4/25/7

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- ☒ Chilled, cooler with temperature blank provided.
☐ Chilled, cooler without temperature blank.
☒ Chilled and placed in cooler with wet ice.
☐ Ambient and placed in cooler with wet ice.
☐ Ambient temperature.

3.7 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- ☐ °C Temperature blank.
☐ °C IR thermometer.
☐ Ambient temperature.

Initial: [Signature]

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____

Not Present: [Signature]

Initial: [Signature]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with custody papers.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on sample label(s).....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOA vial(s) free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

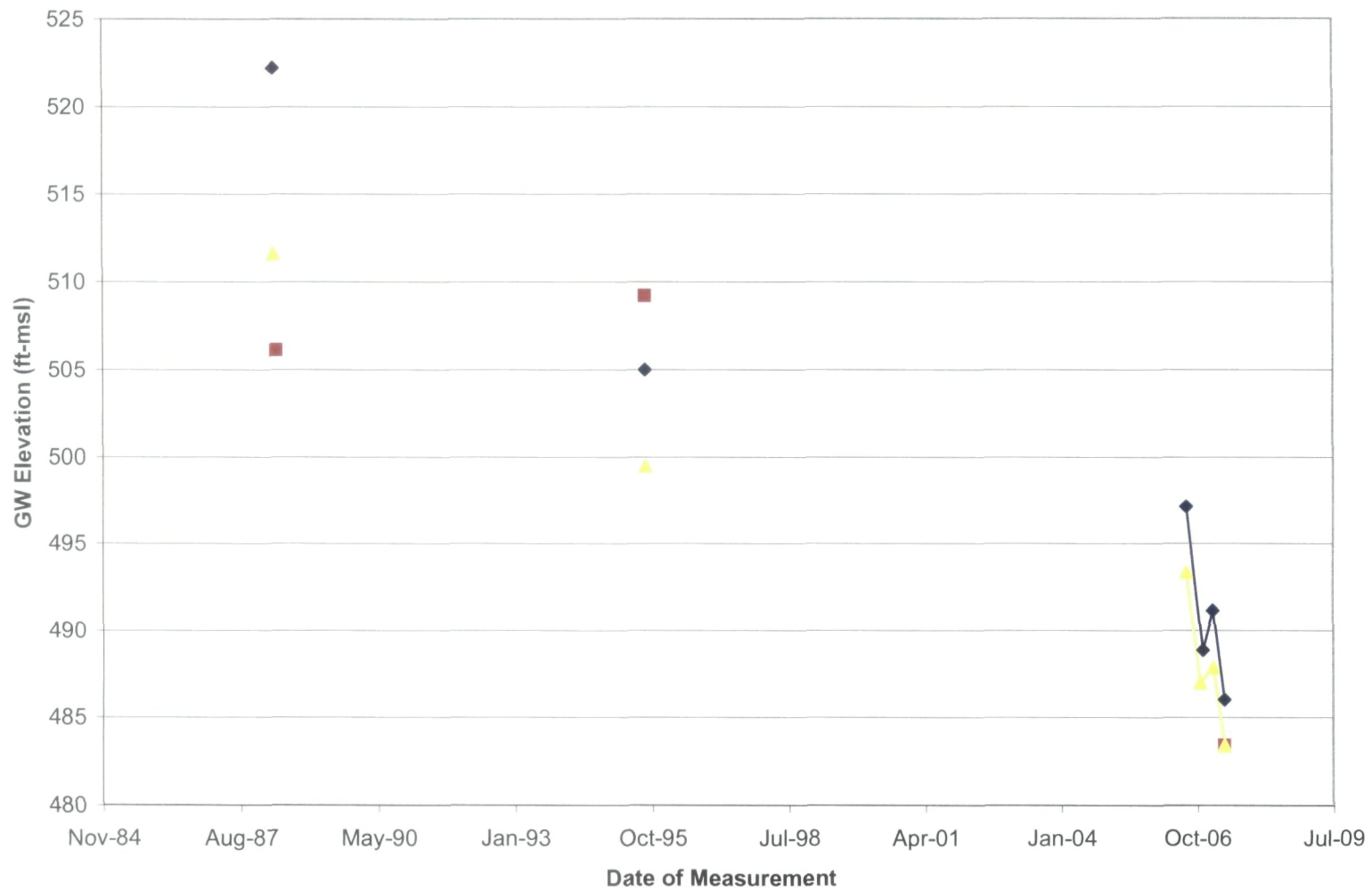
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COMMENTS:

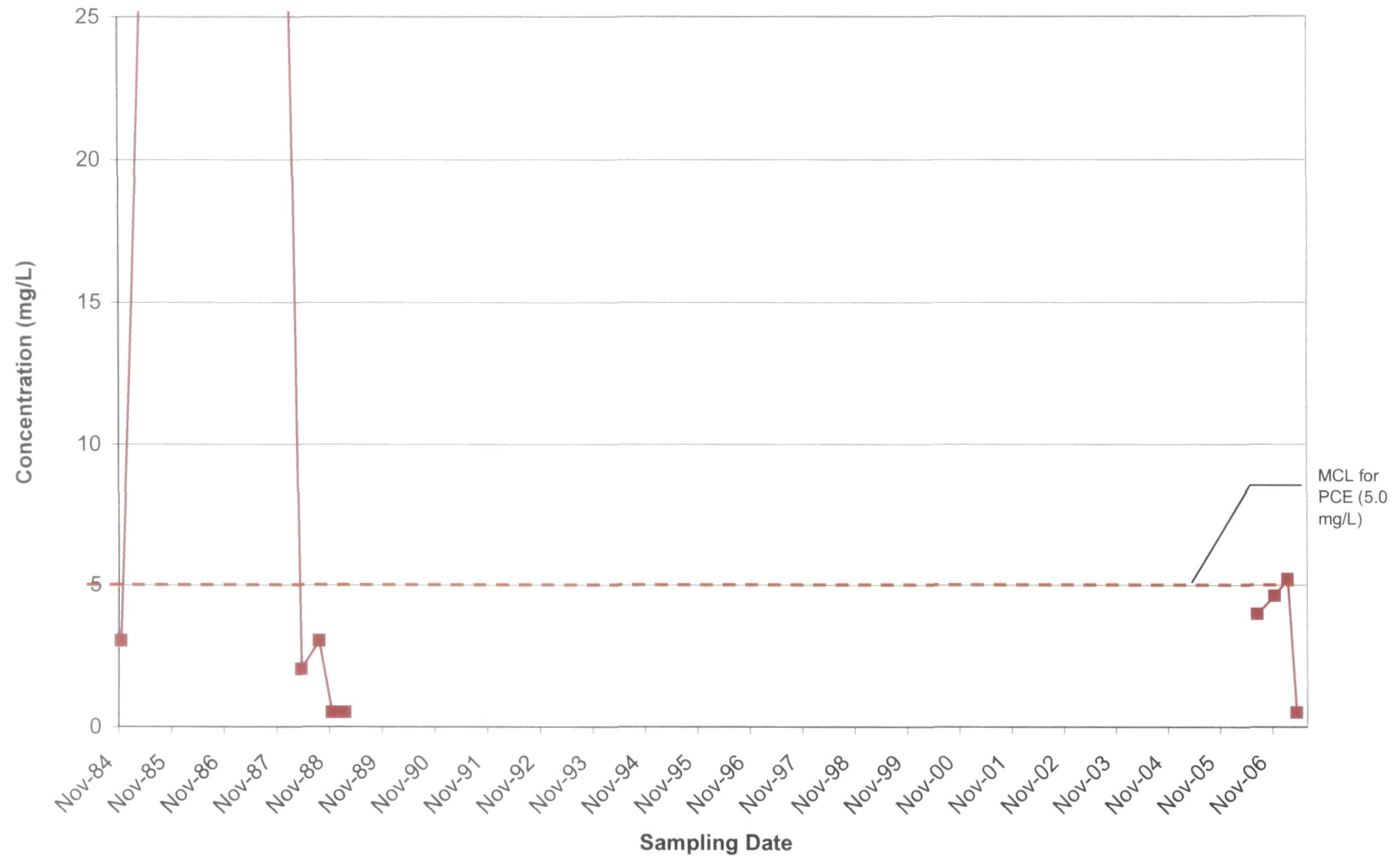
Appendix C

Hydrographs and Time vs. Concentration Plots

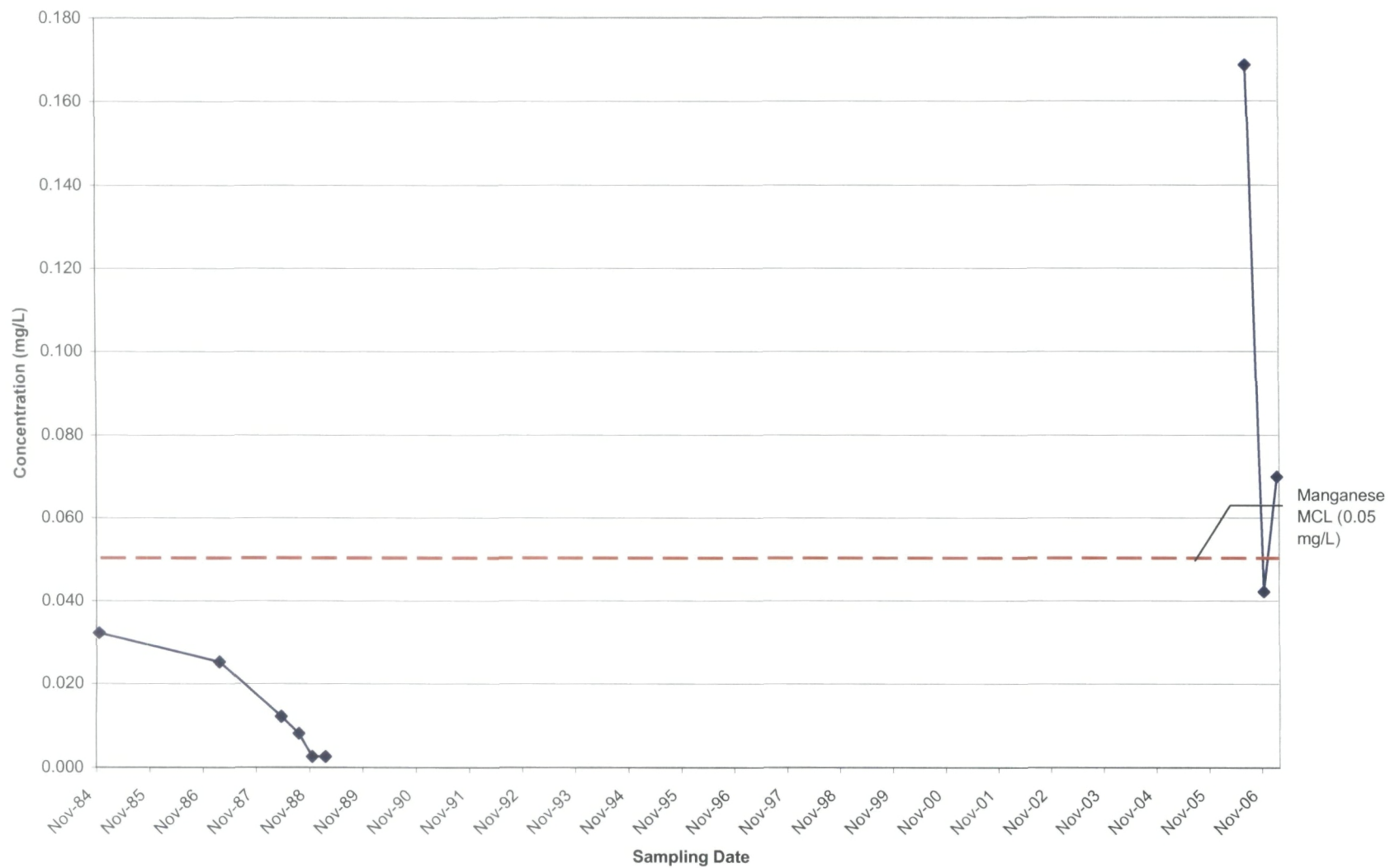
**Plot 1: Groundwater Hydrograph
Former Hewitt Landfill**



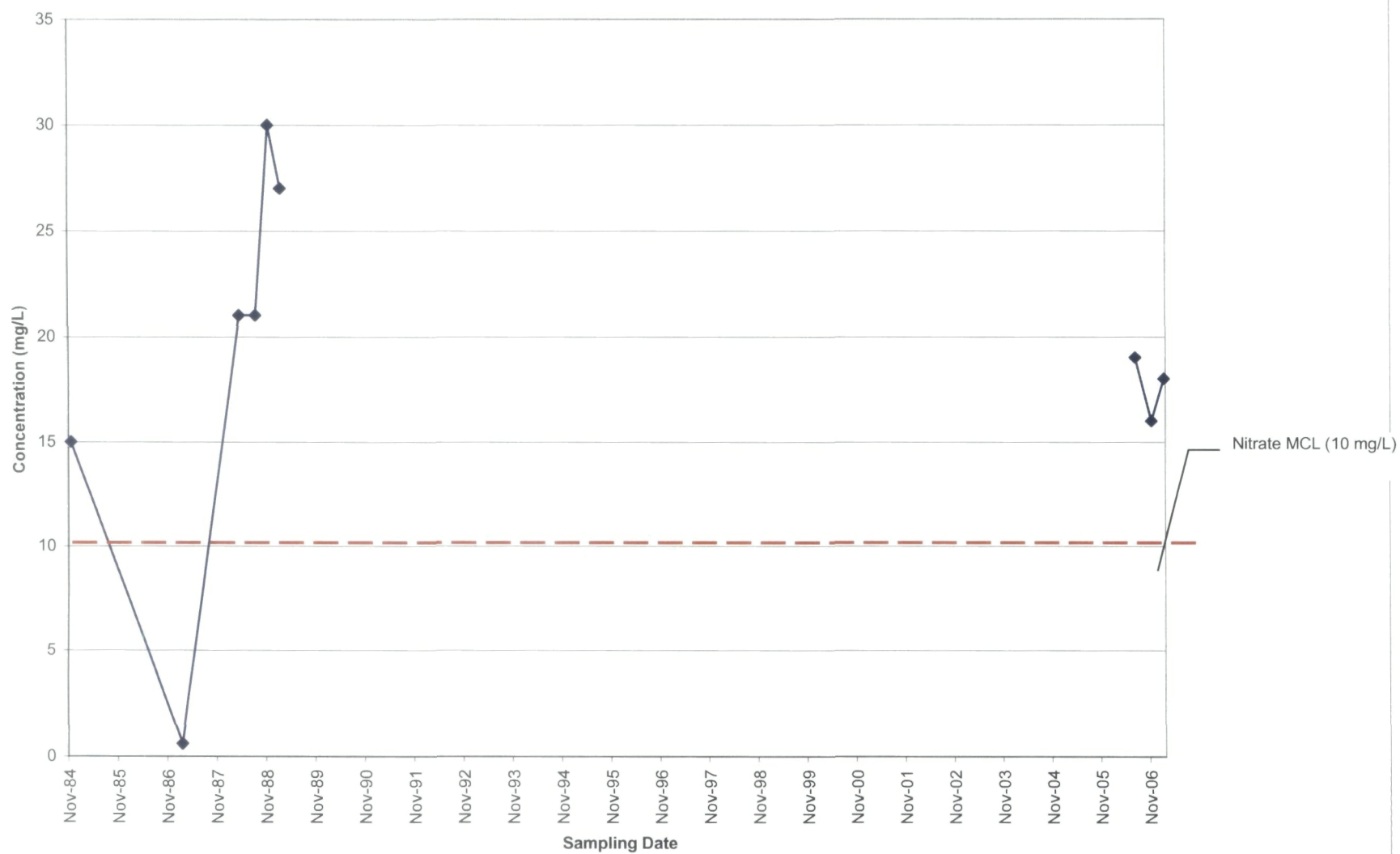
Plot 2: PCE Concentrations at Well 4899



Plot 4: Manganese Concentrations at Well 4899



Plot 5: Nitrate Concentration at Well 4899



Plot 6: Nitrate Concentration at Well 4909F

